

30(1)

SOV/25-59-11-24/38

AUTHOR: Korolevskiy, Yu.P., Engineer

TITLE: Ultrasound Looks for Fish

PERIODICAL: Nauka i zhizn', 1959, Nr 11, p 67 (USSR)

ABSTRACT: The "Okean" trawler put into service last year is equipped with a search apparatus for target catching of fish. A hydrolocator of horizontal tracing and an echo sounding gear are the main fish sweeping devices of the trawler. The principle of their action is the same. The ultrasound signal sent into the water is reflected by the object met and registered on the ship. Small organisms in the water reflect the signal better the higher the frequency is and, consequently, the shorter the radiation waves. There are 4 photographs and 1 drawing.

Card 1/1

KOROLEVSKIY, Yu.P., Acad.

Principles governing the establishing of norms for permissible
postrepair dimensions (wear) of parts and clearances. Sudostroenie
31 no.5:51-56 My '65. (MIRA 18:8)

KOROLEVTSEV, I.

USSR/Electronics - Receivers
Neva-52

Jul 52

"The Neva-52," I. Korolevtsev, D. Faygenbaum

"Radio" No 7, pp 32-35

The Neva has been produced practically unchanged since 1947. Since mid-1952, a modernized Neva-52 receiver has been produced by the Metal Parts Plant of the Leningrad Div of Local Ind. The receiver has long- and medium-wave bands and the following short-wave bands: 11.4-12 Mc, 9.1-10 Mc, and 3.95-7.5 Mc.

22676

KOROLEVTSEV, I.

PA 195T80

USSR/Radio - Receivers

Jul 51

"Metalloizdeliy" Plant

"The Neva Receiver," I. Korolevtsev, D. Faygenbaum

"Radio" No 7, pp 53-55

Since Dec 49, the Leningrad "Metalloizdeliy" Plant has been producing Neva radio receivers. Previously, these receivers were produced by a plant of the Min of Communications Equipment Ind. Describes changes made in the receiver by the "Metalloizdeliy" Plant.

195T80

AUTHOR: Korolevtsev, V. M., Graduate Student SOV/154-58-1-5/22

TITLE: New Devices for Precise Base Measurements by Means of Supporting Wires (Novyye pribory dlya tochnykh bazisnykh izmereniy podvesnymi provolokami)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodesiya i aerofotos"yemka, 1958, Nr 1, pp 41-50 (USSR)

ABSTRACT: The majority of those devices that belong to the complete set of instruments for precise base measurements are complicated in their structure and difficult to move and to handle. The goal of many designers was to modernize these instruments. The author of the paper under review reports on some measuring devices designed by him and on the simplification of the entire apparatus. The complete set of instruments proposed by him, which considerably simplifies the entire measuring process, has already undergone a preliminary test. This showed that the use of this apparatus simplifies, standardizes, mechanizes and automatizes the process. If precision is increased, also higher efficiency can be achieved. The former clumsiness of the apparatus, as well as the number of devices were reduced. The complete measuring set was made easily

Card 1/2

SOV/154-58-1-5/22
New Devices for Precise Base Measurements by Means of Supporting Wires

transportable by considerably reducing its total weight.
There are 12 figures.

ASSOCIATION: Voronezhskiy sel'skokhozyaystvennyy institut
(Voronezh Institute of Agriculture)

Card 2/2

...KOROLEVTSEV, V.M., aspirant

Using the method of short-base parallaxic traversing with a
vertical substance bar. Trudy MIIGAIK no.39:63-81 '60.
(MIRA 13:8)

1. Kafedra vysshey geodesii Moskovskogo instituta inzhenerov
geodesii, aerofotos"yemki i kartografii.
(Traverses (Surveying))

S/270/63/000/001/004/024
A001/A101

AUTHOR: Korolevtsev, V. M.

TITLE: The K-level instrument with a stand and rods of a new design

PERIODICAL: Referativnyy zhurnal, Geodeziya, no. 1, 1963, 21, abstract 1.52.144
("Nauchn. tr. Voronezhsk. inzh.-stroit. in-t", 1962, no. 9, 255 - 267)

TEXT: The author describes a dumpy level instrument of the HF-K (NG-K) type with a contact level intended for determining elevations between sighting points while conducting leveling of sides in base and polygonometric measurements. The principal technical data of the leveling instrument are as follows: magnification of the sighting telescope is 31 diameter, sight field of the telescope is 1°, equivalent focal length of the objective is 314 mm, the least sighting distance is 3 m, coefficient of the range finder is 100, the value of one division of levels: cylindrical - 17-25", round - 7-15" per 2 mm. The level instrument weighs 2.1 kg, the stand weighs 3.5 kg. Specific features of the NG-K type level instrument are the presence of a special mechanism with an

Card 1/3

The K-level instrument with a stand and...

S/270/63/000/001/004/024
A001/A101

elevation screw for rapid and precision mounting of the telescope sighting axis into horizontal position and the absence of a three-screw base. The stand is made of Duraluminum. Its head represents a cylinder with three cleats for adjoining legs. A chuck is put into the hollow part of the head, and this chuck holds a bush with the lower part of the level instrument axle. Each leg of the level instrument consists of two Duraluminum tubes ending, in their lower part, with sockets and, in their upper part, with telescopic regulating devices by means of which the bubble of the round level is set at the zero-point. Due to the presence of a regulating device, the horizontal level of the instrument can be changed by 100 - 120 mm without changing the position of the stand legs. Investigations have shown that labor efficiency rises by 30% in using NG-K level instruments; the r.m.s. error of elevation determination is equal to 1 mm. Two designs of one-side two-scale rods are proposed for leveling sighting points: transparent and suspended. The former type, 1.5 m long, is manufactured of organic glass or stalinit. One of its scales has black 20-mm divisions, the other is divided into 11-mm divisions of red color. The suspended rod consists of two frames one of which is located within the other. The width of the outer frame is 100 mm, the length is 1.60 m; the corresponding dimensions of the

Card 2/3

The K-level instrument with a stand and...

S/270/63/000/001/004/024
A001/A101

inner frame are 70 mm and 1.53 m. The rod weighs 2 kg. Both frames are connected by means of hinges. A thin plate of organic glass is placed in the grooves of the inner frame; it has the same divisions as the first rod.

V. Sinyagina

[Abstracter's note: Complete translation]

Card 3/3

PHASE I BOOK EXPLOITATION

BOV/5840

Koroli, Ol'ga Yevgen'yevna, Docent, Candidate of Technical Sciences

Teoreticheskaya mekhanika trayektorii iskusstvennykh sputnikov Zemli;
pis'mennyye lektsii (Theoretical Mechanics of the Trajectory of Arti-
ficial Earth Satellites; Correspondence Courses) Leningrad, 1960. 28 p.
Errata slip inserted. 1000 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya
RSFSR. Severo-zapadnyy zaachnyy politekhnicheskiy institut.

Ed.: T. Gapeyeva.

PURPOSE: This textbook is intended for students in all divisions and depart-
ments of the Severo-zapadnyy zaachnyy politekhnicheskiy institut (North-
western Polytechnic Correspondence Institute).

COVERAGE: The book discusses certain problems of the theory of motion of arti-
ficial Earth satellites. Only the Earth's gravitation is taken into account.
Basic information on the motion of a free material point subjected to the
Newtonian gravity and on the trajectories of artificial Earth satellites is

Card 1/3

Theoretical Mechanics (Cont.)

SOV/5840

6. Determination of parameters of an elliptic trajectory	18
7. Period of revolution	22
8. Relationship between the orbital parameters at the beginning of motion and the lifetime of the artificial Earth satellite	24
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AVAILABLE: Library of Congress (TL1075.K6)

Card 3/3

AC/dm/bc
12-15-61

16(1); 24(6)

PHASE I BOOK EXPLOITATION

SOV/1909

Koroli, O. Ye., Docent, Candidate of Technical Sciences

Pryamolineynoye kolebatel'noye dvizheniye material'noy tochki; pis'mennyye lektsii
(Rectilinear Vibrational Motion of a Particle; Correspondence Lectures)
Leningrad, 1958. 61 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Severo-zapadnyy zaochnyy politekhnicheskii institut.

Ed.: L. Vol'pe.

PURPOSE: This book is intended for home study by mechanical and structural engineers who are engaged in the design of machines or structures in which dynamic stresses caused by vibrations are present.

COVERAGE: The book contains a short presentation of the theory of vibrations, which gives the basic concepts and formulas of free and forced rectilinear vibrational motion of a particle. In connection with the presentation of the theory of forced vibrations of a particle acted upon by harmonic force,

Card 1/4

Rectilinear Vibrational Motion (Cont.)

SOV/1909

the problem of resonance and the danger to machine parts and structures exposed to the effect of resonance are studied. Conditions necessary for the safe design of machines subject to vibrations are described. The theory is illustrated by examples. No personalities are mentioned. There are no references.

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1. Harmonic vibrations	5
2. The period, frequency, amplitude, and phase of harmonic vibrations	9
Questions for Self-testing	12
Problems on Harmonic Vibrations	12
Lecture 2. Damping Vibrations of a Point Under the Linear Law of Resistance of a Medium; Period and Decrement of These Vibrations	20
3. Damping vibrations of a point under the linear law of the resistance of a medium	20
4. The period and decrement of damping vibrations	24

Card 2/4

Rectilinear Vibrational Motion (Cont.)

80V/1909

Questions for Self-testing

56

Problems on Forced Vibrations Taking Into Account the Resisting Force

56

AVAILABLE: Library of Congress (QA935.K835)

Card 4/4

IK/mas
8-20-59

KOROLI, Ol'ga Yevgen'yevna, dotsent, kand.tekhn.nauk; GAPEYEVA, T., red.

[Theoretical mechanics; trajectories of artificial earth satellites;
correspondence course] Teoreticheskaya mekhanika; traektorii
iskusstvennykh sputnikov Zemli; pis'mennyye lektsii. Leningrad,
Severo-zapadnyi zaachnyi politekhn.in-t, 1960. 28 p.

(MIRA 14:6)

(Artificial satellites)

KOROLIEWA, N.; MURAZJAN, A.

Medical care of industrial workers. Zdrowie pub., Warszawa
no.6:425-429 Nov-Dec 54.

1. Z Oddzialu opieki nad robotnikami przemyslawymi Ministerstwa
zdrowia ZSRR - Naczelnik oddzialu N.Koroliewa
(INDUSTRIAL HYGIENE
in Russia)

ANDREJEVIC, Mihailo; KOROLIJA, Petar; STANKOVIC, Sotir

Contribution to the study on clinical aspects of primary carcinoma of the gallbladder. Srpski arh. celok. lek. 90 no.3:229-235 Mr '62.

1. Interno odeljenje Gradske bolnice u Beogradu Sef: prof. dr Mihailo Andrejevic.
(GALLBLADDER neopl)

5

KOROLJKA, Petar; STANKOVIC, Sotir; ANDREJEVIC, Mihailo

Clinical picture and biological changes in primary liver cancer.
Srpski ark. celok. lek. 91 no.12:1165-1173 D '63.

1. Interno odeljenje Gradske bolnice u Beogradu (Sef: prof. dr.
Mihailo Andrejevic).

ANDREJEVIC, Mihailo; KOROLIJA, Petar; STAMENKOVIC, Jelena

Value of Ascoli's and Jirgl's test in the differential diagnosis of malignant and benign obstructive jaundice. Srpski arh. celok. lek. 92 no.4:401-406 Ap '64

1. Interna nastavna baza Medicinskog fakulteta Gradska bolnica u Beogradu (Upravnik: prof. dr. Mihailo Andrejevic) i laboratorijski odsek Gradske bolnice u Beogradu (Nacelnik: dr.R.Petrovic).

ANDREJEVIC, Mihailo; KOROLIJA, Petar

A case of acute thrombosis of the axillary artery of allergic etiology. Srpski arh. celok. lek. 92 no.7:793-795 J1-Ag '64

1. Interno odeljenje Gradske bolnice u Beogradu (Upravnik: prof. dr. Mihailo Andrejevic).

YUGOSLAVIA

ANDREJEVIC, Mihailo, Dr, prof, STANKOVIC, Sotir, Dr, STEVANOVIC, Milan, Dr, KOROLIJA, Petar, Dr; Department of Internal Medicine of the City Hospital, Belgrade (Interno odeljenje Gradske bolnice u Beogradu) (Head: ANDREJEVIC, Mihailo, Dr, prof), Belgrade.

"Influence of Bismuth Therapy on the Acidity and Pepsin of Ulcer Patients"

Belgrade, Medicinski Glasnik, Vol 19, No 11-12, Nov-Dec 1965, pp 316-318

Abstract: Bismuth-subnitrate causes subjective improvement of difficulties in 85,5% of cases. The value of acidity after therapy decreases in 2/3 of the patients and pepsin in one-half of them. This difference is the result of the weaker effect of bismuth therapy on pepsin; on the creation of proteolysis. With regard to the eventual effect of bismuth-subnitrate, the administration of the bismuth-subcarbonicum should be decided upon and therapy should be extended. Effect of bismuth treatment on anacid ulcers is shown more in the absence of the irritation factor of food than in connection with pepsin. No references.

Boris V. Korolikhin, V.

BESPAL'KO, I.; KOROLIKHIN, V.

In the educational institutions of the Ministry. Avt.transp.33
no.8:30 Ag'55. (MIRA 8:12)

(Chernovitsy Province--Automobile drivers)

VOLKOV, S.V.; KOROLIKHIN, V.V.

Dissolving renal calculi. The possibility of using trilon B as a chemical solvent; experimental study. Urologiia no.5:38-43 '62. (MIRA 15:12)

1. Iz Gor'kovskoy gorodskoy klinicheskoy bol'nitsy No.5 (glavnyy vrach N.L. Pyatnitskiy).

(CALCULI, URINARY) (ACETIC ACID)

KOROLIKOV, A.

29848

Uchyet zatrat na tyekhnichyeskiye obelushivaniy i ryemont kazhdogo avtomobilya.
Automobil; 1949, s. 12

SO: LETOPIS' NO. 40

KOROLINSKAYA, V. N., Cand of Med Sci -- (diss) "Hymen Lepidosis and Lamblia's During Chronic Dysentery in Children, " Moscow, 1959, 14 pp (Academy of Medical Sciences, USSR) (KL, 7-60, 110)

ANDREJEVIC, Mihajlo, dr., prof.; STANKOVIC, Sotir; KOROLIJA, Petar;
MADIC, Radmila

Contribution to the clinical picture of pleural epithelioma. Srpski
arh. celok. lek. 89 no.1:5-11 Ja '61.

1. Interno odeljenje Gradske bolnice u Beogradu. Sef: prof. dr
Mihajlo Andrejevic.

(PLEURA neopl) (CARCINOMA BRONCHOGENIC case reports)

S/058/63/000/003/028/104
A062/A101

AUTHORS: Kaplan, S. A., Koval'chuk, V. G., Korolishin, V. M.

TITLE: Coefficients of electric conductivity and diffusion in relativistic one-component plasma

PERIODICAL: Referativnyi zhurnal, Fizika, no. 3, 1963, 19, abstract 30113 ("Visnyk L'vivs'k. un-tu. Ser. fiz.", 1962, no. 1(8), 79 - 82, Ukrainian)

TEXT: A method is given for computing the coefficients of diffusion and electric conductivity in a relativistic one-component plasma in the presence of electric and magnetic fields. Expressions for the components of the "four-dimensional velocity" of the particles are averaged, for the cases of parallel and perpendicular electric and magnetic fields, by means of the distribution function in the zero approximation. Transfer coefficient is obtained in the presence of an electric field and the gradient of concentration of the particle. For a relativistic plasma, at a power exponent of the particle spectrum $\gamma = 2$, the diffusion coefficient is inversely proportional to the intensity of the magnetic field.

[Abstracter's note: Complete translation]

Yu. Mordvinov

Card 1/1

MYZENKO, D.K., inzh.; POMAZUYEV, V.M., inzh.; MIRONCHIK, M.S., inzh.;
KOROL'KEVICH, L.Yu., inzh.

Purification of blast furnace gas without electrostatic filters.
Stal' 20 no. 7:667-670 J1 '60. (MIRA 14:5)

.1. Chelyabinskiy metallurgicheskiy zavod.
(Gases—Purification)

L 3982-66

ACCESSION NR: AP5022361

UR/0115/65/000/007/0058/0060
681.118.2

AUTHOR: Kirsa, V. I.; Korol'kevich, V. I.

TITLE: A transistorized electronic tachometer

SOURCE: Izmeritel'naya tekhnika, no. 7, 1965, 58-60

TOPIC TAGS: tachometer, transistorized circuit, electronic measurement

ABSTRACT: The authors describe an electronic transistorized tachometer developed at the Laboratory of Measuring Technology, Ukrainian Affiliate of the State All-Union Technological Scientific Research Institute for the Repair and Utilization of Tractors and Agricultural Machinery. The instrument is designed for measuring the number of revolutions of the camshaft on a fuel pump. This tachometer has five measurement ranges: 0-50 π ; 0-16.7 π ; 16.7 π -25 π ; 25 π -33.3 π and 33.3 π -50 π radians per second. The first range is a scanning range for deciding the limits of measurement required, after which the instrument is set to the appropriate one of the other four ranges for more accurate determination of the number of revolutions. A schematic diagram of the instrument is given and the principles of operation and design

Card 1/2

L 3982-66

ACCESSION NR: AP5022361

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factors are discussed briefly. The entire instrument together with the poser supply is mounted in a metal case 220 x 150 x 90 mm in size. Zero set, bridge balance control, range switch, power switch and meter are mounted on the front panel of the device. The instrument is connected to the pickup by a flexible cable. This arrangement makes it possible to take readings in hard to reach places. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: PR, IE

NO REF SOV: 000

OTHER: 000

PC
Card 2/2

KOROLKIEWICZ, Z.; TEUCHMANN, J.

Effect on the so-called central and peripheral fever. Studies on the effect of physostigmine, largactil and reserpine. Acta physiol.polon. 11 no.5/6:781-782 '60.

1. Z Zakladu Farmakologii A.M. w Gdansk, Kierownik: prof.dr J.K. Teuchmann.

(FEVER exper)

(PHYSOSTIGMINE pharmacol)

(CHLORPROMAZINE pharmacol)

(RESERPINE pharmacol)

TEUCHMANN, Jan Karol; KOROLKIEWICZ, Zbigniew; WIGLUSZ, Zdzislaw

Comparative pharmacodynamic studies on long-acting sulfamethoxy-
pyridazine-sulfonamide. Polski tygod.lek. 15 no.42:1593-1598
17 0 '60.

1. Z Zakladu Farmakologii A.M. w Gdansk; kierownik: prof.dr
med. J.K. Teuchmann.

(SULFAMETHOXYPYRIDAZINE pharmacol)

TEUCHMANN, Jan Karol; KOROLKIEWICZ, Zbigniew; KUCHCINSKI, Wladyslaw

Comparative studies on the properties of sulfamethoxypyridazine
and other prolonged action sulfonamides. Polski tygod.lek. 15 no.51:
1958-1962 19 D '60.

1. Z Zakladu Farmakologii A.M. w Gdansk; kierownik: prof. dr med.
J.K. Teuchmann.

(SULFAMETHOXYPYRIDAZINE pharmacol)

KOROLKIEWICZ, Zbigniew; TEUCHMANN, Jan Karol

Studies on so-called central and peripheral fevers. Studies on the effect of physostigmine, largactil and reserpine. Acta physiol pol 12 no.2:219-229 '61.

1. Z Zakladu Farmakologii A.M. w Gdansk Kierownik: prof. dr J.K. Teuchmann.

(FEVER exper)	(PHYSOSTIGMINE pharmacol)
(CHLORPROMAZINE pharmacol)	(RESERPINE pharmacol)

KOROLKIEWICZ, Zbigniew
SURNAME, Given Names

Country: Poland

Academic Degrees:

Affiliation:

Institute of Pharmacology of the Medical Academy (Zaklad
Farmakologii, Akademia Medyczna), Gdansk; Director (Kierownik):
Prof Dr Med J K Teuchmann

Source:

Krakow, Przegląd Lekarski, Vol XVII, Ser II, No 10, 1961,
pp 370-373

Data:

"Experimental Investigations of the Mechanism of Action
of Experimental Fever in Anaphylactic Shock."

Authors:

TEUCHMANN, Jan Karol, Prof Dr Med
/KOROLKIEWICZ, Zbigniew [Academic Degrees not given]

6FO 981643

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824820010-6

Country: Poland

Academic Degrees: [not given]

Department of Pharmacology of the Academy of Medicine (Zaklad
Affiliation: Farmakologii Akademii Medycznej), Gdansk

Source:

Warsaw, Farmacja Polska, Vol XVII, No 18, 25 September 1961,
pp 382-383

Data:

"Comparative Investigations of Certain Properties of
Sulfonamides With Prolonged Action."

Authors:

TEUCHMANN, Jan Karol
KOROLKIEWICZ, Zbigniew
KUCHCINSKI, Wladyslaw
WILGUSZ, Zdzislaw

TEUCHMAN, Jan Karol, prof.dr. med.; KOROLKIEWICZ, Zbigniew; KUHCINSKI,
Wladyslaw; WILGUSZ, Zdzislaw

Comparative research on certain properties of sulphonamides with
extended effect. Farmacja Pol 16 no.18:382-383 S '61.

1. Zaklad Farmakologii, Akademia Medyczna, Gdansk. Kierownik:
prof.dr.med J.K. Teuchmann.

KOROLKIEWICZ, Zbigniew

Studies on the mechanism of action of some drugs on the so-called peripheral and central fevers. Acta physiol. polon. 13 no.5:651-662 '62.

1. Z Zakladu Farmakologii AM w Gdansk Kierownik: prof. dr J.K. Teuchmann.

(FEVER) (PYROGENS) (EPINEPHRINE) (RESERPINE)
(CHLORPROMAZINE) (SODIUM SALICYLATE) (NITROPHENOLS)
(ANALGESICS AND ANTIPYRETICS)

KOROLKO, Andrzej; GORNY, Dionizy

2 cases of paralysis of the respiratory center after the administration of palfium. Polski tygod.lek. 16 no.5:180-182 30 Ja '61.

1. Z I Kliniki Chorob Wewnetrznych A.M. w Lublinie; kierownik: prof. dr med. Mieczyslaw Kedra i z II Kliniki Chirurgicznej A.M. w Lublinie; kierownik: prof. dr med. Feliks Skubiszewski.
(ANALGESICS AND ANTIPIRETICS toxicol)
(RESPIRATION)

KEDRA, Mieczyslaw; KOROLKO, Andrzej

Behavior of Skibinski's circulatory-respiratory coefficient in pulmonary and cardiac diseases. Polski tygod. lek. 16 no.36:1383-1389 4 S '61.

1. Z I Kliniki Chorob Wewnętrznych A.M. w Lublinie; kierownik: prof. dr med. Mieczyslaw Kedra.

(LUNG DISEASES diag) (HEART DISEASES diag)

KOROLKO, Andrzej; SMAJKIEWICZ, Ludwik

A case of abscess of the anterior mediastinum following dental infection. Polski tygod. lek. 16 no.49:1899-1901 4 D '61.

1. Z I Kliniki Chorob Wewnętrznych A.M. w Lublinie; kierownik: prof
dr med. Mieczysław Kedra i z Zakładu Radiologii A.M. w Lublinie;
kierownik: z-ca prof. dr med. Kazimierz Skorzyński.
(MEDIASTINUM dis) (ABSCCESS etiol) (TEETH dis)

KOBOLKO, Andrzej; KOLZELIWSKI, Janusz

Primary megacosophagus. Pol. tyg. lek. 19 no.23:1286-1287
17 S '64.

1. Z I Kliniki Chorob Wewnętrznych Akademii Medycznej w Lublinie
(kierownik: prof. dr med. Mieczysław Kiedra) i ze Szpitala
Wojskowego w Lublinie.

KOROL'KO S.A.

EVENTOV, I.M., kandidat tekhnicheskikh nauk; KOROL'KO, S.A., kandidat tekhnicheskikh nauk, retsentsent; RUSINOV, I.Ya., kandidat tekhnicheskikh nauk, retsentsent.

[Snowplows] Snegoochistiteli. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 142 p. (MLRA 7:9)
(Snow plows)

KOROL'KO, V.

Spontaneous recovery of cattle from paratuberculous enteritis.
Veterinariia 36 no.6:32 Je '59. (MIRA 12:10)

1. Glavnyy veterinarnyy vrach Khar'kovskogo sakhsveklotresta.
(Cattle--Diseases and pests)

KOROL'KO, Ye.I., inzh.

Determining optimum prismatic tooth pitch in a bit rim. Trudy
VNIIBT no.1:91-117 '58. (MIRA 11:12)
(Boring)

GRISHIN, A.S., inzh.; KONSTANTINOV, L.P.; KOROL'KO, Ye.I.; EDEL'SHTAYN, Ye.I.;
EYGELES, R.M.

Destruction of brittle bodies. Trudy VNIIBT no.1:131-133 '58.
(Rocks) (MIRA 11:12)

KOROL'KOV, A.

Improve the accounting of stock movements in automotive transport
organisations. Avt. transp. 35 no.5:8-9 My '57. (MLRA 10:6)
(Transportation, Automotive--Accounting)

1. BAKLAYEV, Ya. P.; GUKHMAN, N. Ye.; KORZHINSKIY, D. S.; KOROL'KOV, A. A.; SERGIYEVSKIY, V. M.; USHAKOVA, M. V.; and CHERNYSHEV, V. F.
2. USSR (600)
4. Turinsk District - Copper Ores
7. Turinsk group of copper ore deposits in the Urals. (Abstract.) Izv.Glav.upr.geol. fon.no. 3, 1947.
9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

LIDER, V.A.; PERVAGO, V.A., otv.red.; MOKRUSHIN, K.V., red.; YERMAKOV, N.P., red.; KOROL'KOV, A.A., red.; KOZHEVNIKOV, K.Ye., red.; NECHAYEV, P.V., red.; POIARKOV, M.A., red.; FURKIN, A.V., red.; SOBOLEV, I.D., red.; TARKHANEYEV, B.F., red.

[Geology of the Northern Sos'va brown coal basin.] Geologiya Severosos'vinskogo burougol'nogo basaina. Moskva, Nedra, 1964. 144p. (Materialy po geologii i poleznym iskopaemyim Urala, no.11) (MIRA 18:4)

KOROL'KOV, A. G. LC'RIYA, K. F.

Kabardian Horse

Results of crossbreeding of Kabardian horses with purebred saddle horses, Konevodstvo. No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, July 195⁶/₂, Uncl.

KOROL'KOV, A. G.

Horse Breeding

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9. Monthly List of Russian Accessions, Library of Congress, September 1957₂, Uncl.

KALABUKHOV, F.V.; SEMIKIN, N.V.; SHUL'MAN, A.S.; BRAZOVSKAYA, T.I.;
MIZINOV, V.N.; BASH, M.S.; BRONSHTEYN, L.A.; POLCHANINOV,
P.V.; VERKHOVSKIY, I.A.; KOROL'KOV, A.I.; GERONIMUS, B.L.;
STRYZHKOVA, N.I., red.; GALAKTIONOVA, Ye.N., tekhn. red.

[Principles of the economics of automotive transportation;
for the aid of those studying the economics of automotive
transportation] Osnovy ekonomiki avtomobil'nogo transporta;
v pomoshch' izuchaiushchim ekonomiku avtomobil'nogo trans-
porta. Moskva, Avtotransizdat, 1963. 357 p.

(MIRA 17:3)

1. Zaveduyushchiy kafedroy ekonomiki i organizatsii proiz-
vodstva Moskovskogo avtomobil'no-dorozhnogo instituta (for
BronshTEYN).

KOROL'KOV, A. K.

Korol'Kov, A. K. "The concentration of the fuel-yielding schists of the Baltic states," Zapiski Leningr. gornogo in-ta, Vol XV- XVI, 1949, p. 91-114

SO: U-5240, 17, Dec 53, (Isotopis 'Zhurnal 'nykh Statey, No. 25, 1949).

1. Kozlov, V.V.; Kozlov, V.V., Senior Mach. Eng.,
retiree

[Bimetal castings] Bimetallizirovannye otlivki. Moskva,
Mashinostroenie, 1964. 179 p. (MIRA 17:17)

CA
Korol'kov, A. M.

PROCESSES AND PROPERTIES INDEX

The properties of nickel-chromium alloys and their manufacture. A. M. KOROL'KOV. *Intermetallic Metal*, 1981, 1471-4. Alloys were desired with a high elec. resistance and resistance to oxidation up to 1000°. The suitability of these alloys for the manuf. of wires and strips was also investigated. A no. of alloys on the market were also examd. Melts were made from purest materials available. The alloys prep'd. analyzed Ni 81-84, Cr 9-22, Fe 10-22 and Mn 1.7%. Other impurities were low. The loss of Cr was as high as 15-23%. All the alloys were satisfactorily cold-rolled into a 6 mm. strip or wire 2.0 mm. in diam. The wires were then annealed at 950-1000° and drawn to 2 mm. These were annealed again and drawn to 1.5 mm. Mech. properties and microstructures of the alloys are given. Tests showed that the elec. resistance, temp. coeff. and resistance to oxidation at high temps. render the alloys suitable for use in heating coils, the ternary Ni-Cr-Fe alloys being the best. B. N. DANILOFF

AND S.E.A. METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CHOICES										3RD AND 4TH CHOICES									
PROCESSES AND PROPERTIES INDEX																			
<p><i>M</i> <i>2</i></p> <p>*On the Equilibrium Diagram of the System Cobalt-Tungsten Carbide. A. M. Kozlov and A. M. Lavie (Metallurg (Metallurgy), 1964, (2), 53-55).—[In Russian.] Alloys with 1-95% of tungsten carbide have been studied. The limit of solid solubility of tungsten carbide in cobalt is about 15%, and the eutectic contains 35% WC. Phase X containing about 60% WC is formed by a peritectic reaction.—N. A.</p>																			
ASM-51A METALLURGICAL LITERATURE CLASSIFICATION																			
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Korol'kov, A.M.

COMMON ELEMENTS

OPEN

WATERGAS INDEX

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2110-2119

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<p>KOROL'KOV, A.M.</p> <p>20</p> <p>"The Effect of Original Grain-Size of Molybdenum Powders on the Properties of Welded Metal. N. A. Agarkova and A. M. Korol'kov (<i>Metallurgy (Metallurgiya)</i>, 1966, (12), 116-119).—[In Russian.] The rate of grain growth in molybdenum in welding depends on the original grain-size of the metal powder, the finer is the grain thereof the larger are the crystals that are formed at constant welding temperature.—N. A.</p>																									
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									
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<p>*Resistance of Aluminium-Silicon and Aluminium-Copper Alloys to Water A. M. Korolkov and E. M. Timokhina (<i>Izvest. Akad. Nauk S.S.S.R.</i>, 1943, [Tekhn.], (5/6), 69-70).—[In Russian.] Castings of aluminium 87-94, silicon 13-6%, are less porous than those containing aluminium 91-93, copper 9-7%, and have better mechanical properties.</p>																																																																																									
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KOROL'KOV, A.M. 18

***The Time Factor in the Heat-Treatment of Cast Alloys of the Silumin Type.**
A. M. Korol'kov and N. V. Barishnikova (*Izvest. Akad. Nauk S.S.S.R.*, 1943, [Tekhn.] (8), 57-61; *Brit. Abn.*, 1946, (B 1), 39).—[In Russian.] Samples of the alloy (containing silicon 10-90, iron 0-64, manganese 0-40, magnesium 0-30%, remainder aluminium) were heated at $535 \pm 5^\circ \text{C}$. for t_1 hr., quenched, and annealed at $175 \pm 5^\circ \text{C}$. for t_2 hr. When t_2 increased from 0 to 3, the ultimate tensile strength of the samples rose and their total elongation decreased. A change of t_2 between 3 and 10 had no effect; after $t_2 = 20$ the alloy weakened slightly. Variation of t_1 between 0.5 and 12 had no effect on the mechanical properties of the annealed alloys. For very small samples $t_1 = 0.1$ was sufficient. Samples heated in a salt bath did not differ from those heated in air. The larger t_1 was, the larger were the silicon crystals in the alloy. When the annealed alloy was slowly heated (1-2°/min.), it expanded irreversibly between 200° and 300° C.; the degree of expansion was the smaller the longer were t_1 and t_2 , but the effect of t_1 was less distinct.

Mbr., Lral Machinery Plant, Institute of Metallurgy
Acad Sci USSR.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND COLUMNS													3RD AND 4TH COLUMNS												
<div style="display: flex; justify-content: space-between;"> <div style="width: 10%;"> <p style="transform: rotate(-90deg);">COMMON ELEMENTS</p> <p style="transform: rotate(-90deg);">PERIODIC TABLE</p> </div> <div style="width: 80%;"> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p style="font-size: 1.2em; margin: 0;">KOROL' KOY, A.M.</p> <p style="text-align: center; margin: 5px 0;">PROCESSES AND PROPERTIES INDEX</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p><i>Ch</i></p> </div> <div style="width: 60%;"> <p>Examination of the contraction of metals. A. M. Korol'kov. <i>Zashchita</i> Lab. 13, 69-70(1946) (in Russian). Measurements of the total linear contraction λ from 78-100° above the m.p. to room temp., for Ag, Al, Bi, Cd, Cu, Mg, Pb, Sn, and Zn, were in agreement with the values calculated by $\lambda = a(t - t_0)$ where a = mean thermal expansion coeff., t_0 = m. temp., t = room temp.; deviations were greatest (6-8%) in the case of Al, Mg, and Zn. For pure metals with a face-centered cubic lattice (Ag, Al, Cu, Pb) $\lambda = 0.05 + 0.0014 t$, an equation which parallels Grubb's relation between thermal expansion and m. temp.</p> </div> <div style="width: 10%; text-align: right;"> <p><i>SP</i></p> </div> </div> </div> </div> </div>													<div style="display: flex; justify-content: space-between;"> <div style="width: 10%;"> <p style="transform: rotate(-90deg);">COMMON ELEMENTS</p> <p style="transform: rotate(-90deg);">PERIODIC TABLE</p> </div> <div style="width: 80%;"> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p style="font-size: 1.2em; margin: 0;">KOROL' KOY, A.M.</p> <p style="text-align: center; margin: 5px 0;">PROCESSES AND PROPERTIES INDEX</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p><i>Ch</i></p> </div> <div style="width: 60%;"> <p>Examination of the contraction of metals. A. M. Korol'kov. <i>Zashchita</i> Lab. 13, 69-70(1946) (in Russian). Measurements of the total linear contraction λ from 78-100° above the m.p. to room temp., for Ag, Al, Bi, Cd, Cu, Mg, Pb, Sn, and Zn, were in agreement with the values calculated by $\lambda = a(t - t_0)$ where a = mean thermal expansion coeff., t_0 = m. temp., t = room temp.; deviations were greatest (6-8%) in the case of Al, Mg, and Zn. For pure metals with a face-centered cubic lattice (Ag, Al, Cu, Pb) $\lambda = 0.05 + 0.0014 t$, an equation which parallels Grubb's relation between thermal expansion and m. temp.</p> </div> <div style="width: 10%; text-align: right;"> <p><i>SP</i></p> </div> </div> </div> </div> </div>												
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CA

KOROL'KOV, A.M.

7

Solubility of zinc and cerium in magnesium in the solid state. A. M. Korol'kov and P. Yu. Sal'dau (Acad. Sci. U.S.S.R., Moscow). *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchey i Neorg. Khim., Akad. Nauk S.S.S.R.* 10, No. 2, 295-306 (1948).--The point of nonvariant equil. of the system Mg-Zn-Ce is at 340-3°. Under the influence of Ce, the soly. of Zn in Mg in the solid state is lowered from 8.5% in the binary system Mg-Zn to 1.25%. Ce also hampers the aging of the alloy; at a Zn:Ce ratio of 1:1, no aging was observed. Zn and Ce when present in certain proportions are favorable for alloys of the electron type. Most favorable was the Zn:Ce ratio 3:1 at a Zn + Ce content of 1.5-2.5%.
M. Hosh

C.A. Vol. 44, June 15, 1950

Inst. of General and Inorganic Chem, Acad Sci USSR

On the assumption of the contraction of Metals. A. M. Kurot'kov (*Zhur. Lab.*, 1947, 13, (1), 66-70).—[In Russian]. From measurements of the linear contraction of pure metals it appears that the coeff. of thermal expansion (α) and the amount of the contraction (λ) are related by the equation: $\lambda = \alpha(t_{\text{exp}} - t_0)$, where t_{exp} = average coeff. of expansion, t_0 = melting temp., and t = ordinary temp. For face-centred cubic metals (copper, silver, aluminium, lead) the amount of contraction is related to the m.p. of the metal by the equation: $\lambda \approx 0.65 - 0.0014t_m$. The contraction of a number of metals (silver, aluminium, bismuth, cadmium, copper, magnesium, lead, tin, zinc) was determined experimentally on an apparatus constructed by K.

12.

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOROL' KDV, A.M.

Co

Waterproofness of cast copper alloys. A.M. Korol'kov. (Baikov Metallurg. Inst. Acad. Sci. U.S.S.R., Moscow). *Dokl. akad. sci. U.S.S.R., Chem. ser. tech.* 1948, 107, 101. (in Russian). — Waterproofness was detd. by the criterion of the min. ("crit.") thickness w of a plate machined from the lower (small) part of a cast ingot, at which drops appeared on the lower side of the plate when water was pressed from the upper side under 10 atm. The values of w found were: Cu-Sn alloys, Cu 98.5, 97.0, 95.0, 93.0, 90.0, 85.0, 80.0%; Cu 1.2, 1.0, 0.8, 0.6, 0.4, 0.3, 0.2; Cu-Al alloys, Cu 98.0, 96.0, 94.0, 91.5, 89.0, 87.5%; Cu 2.0, 1.8, 1.6, 1.4, 1.2, 1.0, 0.8 mm.; the crit. ranges of the alloys listed are: Cu-Sn, 35, 65, 90, 120, 150, 180, 190; Cu-Al, 4, 8, 11, 13, 15, 17, 19. Evidently, w is the higher, that is waterproofness the lower, the broader the crit. range. It is noteworthy that visible gross pores do not cause increased permeability. Pure Cu has w less than 1.0 mm.; Cu + 0.75% Si has $w = 3-4$ mm.; further increase of Si up to 4% causes further rise of w , and only with 6% Si do the casts become relatively tight. Comparison of Cu-Sn and Cu-Si alloys shows that waterproofness is max. at the limit of soln. of the α solid soln. The low waterproofness of Cu-Si alloys with 5-6% Si can be improved considerably by addn. of 2-4% Al and 15-20% Zn. Alloys of Cu-Sb, which crystallize in a particularly wide temp. range (up to 350-400°), are almost perfectly waterproof. Micrographs show that the seat of the porosity is mainly at the points of contact of dendrite branches. N. F.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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KOROL' KOV, A.M.

CA

7

Hardness of certain peritectic alloys as a function of composition, structure, and temperature. A. M. Korol'kov. (Acad. Sci., S.S.S.R.). *Izv. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1960, 114-21. — Brinell tests with a 5-mm. ball, 20-60 kg. load, and no holding time, were run on cast specimens of Sn: 0-40% Sb, Zn: 0-25% Ag, and Cd: 0-20% Ag alloys that had been homogenized for 8-10 hrs. at 20-5° below the solidus temp. In all instances the hardness increased in the terminal solid-soln. range, but the hardness behavior in the remainder of the diagrams was variable, probably as the result of structural effects. The microhardness at 20° and 10 g. load of the terminal solid soln. in the Zn-Ag system was 31, 47, 62, and 80 in 0, 1.0, 2.5, and 7.5% Ag alloys; that of the intermediate solid soln. was 53, 72, 87, and 95 in 12.5, 17.5, 20.0, and 25.0% Ag alloys; that of the terminal solid soln. in the Sn-Sb system was 9, 17, 20.5, 23, 26, and 30 in 0, 4.0, 8.0, 10.0, 15.0, and 20.0% Sb alloys; that of the intermediate solid soln. was 65, 68, 72, and 80 in 15.0, 20.0, 40.0, and 60.0% Sb alloys. Thus, each phase in a 2-phase peritectic mixt. changes with the av. compn. The Cd-Ag system showed the greatest effect of high temp. on hardness, and a continuous increase in hardness from 22 to 60 up to 17.5% Ag at 20° was replaced by a const. hardness of 12 from 4 to 20% Ag at 250°. In all cases the hardness in the 2-phase regions decreased faster than that of the terminal solid soln. The effect of increasing the holding time during the hardness test to 30 min. was to bring out more clearly the max. hardness at the limit of solid solv.

No. 1

A. G. Guy

Translation B-80363, 16 Nov 54

CA KUDOL'KOV, A.M.

7

Dependence of microhardness of structural components on composition in several binary cast alloys. A. M. Kudol'kov and E. S. Kadaner. *Doklady Acad. Nauk S.S.S.R.* 74, 271-4 (1960).—An expl. study was made to correlate the Brinell macrohardness (50 kg., 5 mm. ball) of stabilized and of homogenized alloys of Al plus 0-10% Ni, Al plus 0-10% Mn, Pb + 0-40% Sb, and Sn + 0-40% Sb with the PMT-3 microhardness (10 g.) of the primary phases and of the eutectic structure. A long time homogenizing treatment just below the solidus temp. decreased all hardness values except the microhardness of the hypereutectic primary phases which had the values Al₃Ni 523-551, Al₃Mn 368-380, Sb solid soln. 90-96, β' Sn-Sb 61.5-72. The microhardness of the primary solid solns. increased even into the 2-phase region in the alloys stabilized for about 100 hrs. at 300° (for the Al-base alloys) or at 100°, thus showing the presence of heterogeneity. The microhardness of the eutectic was above that of the primary solid soln. and remained essentially const. far into the hypereutectic region. The high hardness of the intermetallic compd. in the eutectic would have an effect when the amt. of compd. reached about 50%.
A. G. Guy

1957 Evaluation B-78539, 8 Sep 57

KORCL'KOV A.M.

"Application of the micro-hardness method in studying
the structural components of non-ferrous alloys"
pp. 127 of the monograph "Microhardness", Acad. Sci. U.S.S.R., 1951

KOROL'KOV, A.M., kandidat khimicheskikh nauk; KADANER, E.S.

Anomalous cases of linear shrinkage of alloys resulting from
changes of their composition. Issl. splav. tsvet. met. no.1:
54-58 '55. (MLRA 9:10)

(Alloys--Metallography)

SMIRYAGIN, Aleksey Petrovich; KOROL'KOV, kandidat tekhnicheskikh nauk, retsenzent; POSTNIKOV, N.N., inzhennr, retsenzent; SHEPICHINITSKIY, Ye.S., redaktor; KAMAYEVA, O.M., redaktor izdatel'stva; EVENSON, I.M., tekhnicheskiiy redaktor

[Industrial nonferrous metals and alloys] Promyshlennyye tsvetnyye metally i splavy. Izd. 2-e, perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 559 p. (MIRA 9:7)
(Nonferrous metals)

Category : USSR/Atomic and Molecular Physics - Liquids

D-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3591

Author : Korol'kov, A.M.

Inst : Institute of Metallurgy, Academy of Sciences USSR

Title : Surface Tension of Aluminum and Its Alloys

Orig Pub : Izv. AN SSSR, Otd. tekhn. n., 1956, No 2, 35-42

Abstract : The surface tension σ of liquid Al and its alloys with other elements, the concentration of which varied from hundredths and thousandths of a percent to 20 — 40%, was measured by the method of maximum pressure in a bubble. The alloy temperatures exceeded the liquidus line by 50 — 80°. To prevent oxidation, the metals were molten under a flux (mixture of KCl and LiCl). The accuracy of the results was $\pm 2.5\%$. For Al (99.99% pure) $\sigma = 860 \pm 20$ dyne/cm; Li, Ca, Mg, Sb, Sn, Pb, and Bi alloyed with Al have a high surface activity. The addition of Cu, Ag, Zn, Si, Cr, Mn, Fe and Ni hardly affect the value of σ of Al. For a constant concentration of the added metal, the surface tension of the solution diminishes with increasing size of its atom. Comparison of the " σ vx. composition" curves with the diagrams of state of the series

Card : 1/2

Category : USSR/Atomic and Molecular Physics - Liquids

D-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3591

shows that the surface-active components either have a limited solubility in the liquid state (Pb, Bi) or else form stable compounds (Li, Ca, Mg, Sb).

Card : 2/2

KOROL'KOV, Aleksey Mikhaylovich; GUDTSOV, N.T., akademik, otvetstvennyy
redaktor [deceased]; RZHEZNIKOV, V.S., redaktor izdatatel'stva;
POLESITSKAYA, S.M., tekhnicheskii redaktor

[Contraction phenomena in alloys and the formation of cracks during
solidification] Usadochnye iavleniia v splavakh i obrazovanie
treshchin pri zatverdevanii. Moskva, Izd-vo Akad.nauk SSSR, 1957.
70 p. (Alloys) (MIRA 10:9)

KOROL'KOV, A. M.,

"Dependence of the Properties, As-Cast, of Non-ferrous alloys on their Composition and the Type of the Diagram of State," Moscow, 1958 (Dissertation presented and approved for the degree of Dr. Tech. Sci.) Acad. Sci. USSR, Inst. Metallurgy im. A. A. Baykov.

KOROL'KOV, A. M.

"The Flow of Metals and Alloys in Conduits."

Hydrodynamics of Molten Metals (Gidrodinamika rasplavlennykh metalov; trudy pervogo soveshchaniia po teorii liteinykh protsessov. Moskva, Izd-vo Akad. nauk SSSR, 1958, 257 pp.

(Proceedings of the First Conference on the Theory of Casting Processes)

Institute of Metallurgy, Academy of Sciences USSR imeni A. A. Baykov

28(1)

PHASE I BOOK EXPLOITATION

SOV/2156

Soveshchaniye po kompleksnoy mekhanizatsii i avtomatizatsii tekhnologicheskikh protsessov. 2nd, 1956.

Avtomatizatsiya mashinostroitel'nykh protsessov; /trudy soveshchaniya/, tom. 1: Goryachaya obrabotka metallov (Automation of Machine-Building Processes; Proceedings of the Conference on Over-All Mechanization and Automation of Technological Process, Vol 1: Hot Metal-Forming) Moscow, 1959. 394 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut machinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: V.I. Dikushin, Academician: Compiler: V.M. Raskatov: Ed. of Publishing House; V.A. Kotov; Tech. Ed.: I.F. Kuz'min.

PURPOSE: The book is intended for mechanical engineers and metallurgists.

Card 1/8

Automation of Machine-Building Processes (Cont.)

SOV/2156

COVERAGE: The transactions of the Second Conference on the Over-All Mechanization and Automation of Industrial Processes, September 25-29, 1956, have been published in three volumes. This book, Vol. I, contains articles under the general title, Hot Working of Metals. The investigations described in the book were conducted by the Sections for Automation and Hot Working of Metals, under the direction of the following scientists: casting - P.N. Aksenov, D.P. Ivanov and G.M. Orlov; forming - A.I. Tselikov, A.D. Tomlenov and V.T. Meshcherin; welding - G.A. Nikolayev, B.I. Frolov and G.A. Maslov. There are 183 references: 142 Soviet, 34 English, 6 German, and 1 French.

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24(6) PHASE I BOOK EXPLOITATION SOV/2117
Sovetskaniye po eksperimental'noy tekhnike i metodam vychetovoye-
turnykh issledovaniy, 1956

Experimental'naya tekhnika i metody issledovaniy pri vysokikh tem-
peraturakh, trudy sovetskaniya (Experimental Techniques and
Methods of Investigation at High Temperatures; Transactions of the
Conference on Experimental Techniques and Methods of Investigation
at High Temperatures) Moscow, AN SSSR, 1959. 789 p. (Series:
Akademicheskaya kniga SSSR. Institut metallurgii. Komissiya po fiziko-
khimicheskim osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of
Sciences; Ed. of Publishing House: A.I. Rukhviser.

PURPOSE: This book is intended for metallurgists and metallurgical
engineers.

CONTENTS: This collection of scientific papers is divided into six
parts: 1) thermodynamic activity and kinetics of high-temperature
processes; 2) constitution diagram studies; 3) physical properties
of liquid metals and alloys; 4) new analytical methods and pro-
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compositions and at various temperatures using a Wheatstone
bridge and a weak alternating current. The conductivity of
the systems falls with an increase in TiO_2 content, as in
the case of silicates. The results indicated that con-
ductivity is higher in the $MnO-TiO_2$ system than in the
 $FeO-TiO_2$ system, that in both of these systems it is higher
than in the $MnO-SiO_2$ and $FeO-SiO_2$ systems, and that in the
 $MgO-TiO_2$ system it is lower than in the $MgO-SiO_2$ system.

S/123/61/000/002/011/017
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1961, No. 2, p. 3,
2G30

AUTHOR: Korol'kov, A. M.

TITLE: The Dependence of the Casting Properties of Non-Ferrous Metal Alloys
on Their Composition and the Pattern of the Alloy Phase Diagrams

PERIODICAL: V sb.: "Puti uluchsheniya kachestva otlivok". Gorkiy, 1959, pp. 175-
204

TEXT: Basing on the investigation of the set of casting properties of alloys
the author shows that the choice of the optimum alloy composition is of the most
importance among the numerous factors affecting the cast material quality. Parti-
cularly, it is emphasized that a quite regular correlation exists between the
alloy composition, i. e., the position of the alloy in the phase diagrams, and
the manifestation and number of the shrink holes. - There are 38 figures and
58 references.

Yu. Sorokin

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

SOV/180-59-5-19/37

AUTHOR: Korol'kov, A. M. (Moscow)

TITLE: Viscosity of Liquid Metals

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Metallurgiya i toplivo, 1959, Nr 5, pp 123-126 (USSR)

ABSTRACT: Many viscosity equations are based on the assumption of a
quasi-crystalline state in the liquid, and this concept
agrees well with typical viscosity-vs-temperature curves.
The author gives results of determinations of the
viscosity of several metals and the relation of their
kinematic viscosity to certain other physical properties.
He used a vacuum viscometer of the oscillating-crucible
type (damping of oscillations when the crucible is filled
with liquid metal). The design of the instrument and
method of calculation have been described by others
(Refs 4, 7); latest published density values for liquid
metals were used. V. G. Yudin did the experimental work.
The author's and published values of absolute and
kinematic viscosities for six metals at temperatures
close to their melting points are given in Table 1 and
the kinematic viscosities are shown as functions of
temperature in Fig 1. These curves agree with some

Card
1/2

PHASE I BOOK EXPLOITATION

SOV/4378

Korol'kov, A.M.

Liteynyye svoystva metallov i splavov (Casting Properties of Metals and Alloys)
Moscow, Izd-vo AN SSSR, 1960. 195 p. Errata slip inserted. 3,500 copies
printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: A.M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of
Publishing House: A.N. Chernov; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This book is intended for scientific workers, factory laboratory work-
ers, and process engineers in foundries.

COVERAGE: The book contains results of experimental and theoretical investiga-
tions for establishing regularity patterns of changes in the casting properties
of nonferrous and light metal alloys, depending on their composition and type of

Card 1/6

KEROLLEY, H.M.

PHASE I BOOK EXPLOITATION

SOV/4343

Soveshchaniye po teorii liteynykh protsessov, 3d

Usadochnyye protsessy v metallakh; trudy soveshchaniya (Shrinkage Processes in Metals; Transactions of the Third Conference on the Theory of Casting Processes) Moscow, AN SSSR, 1960. 281 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: B.B. Gulyayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: V.S. Rzhiznikov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This collection of articles is intended for scientific workers, engineers, technicians of scientific research institutes and industrial plants, and for faculty members of schools of higher education.

COVERAGE: The collection contains technical papers presented at the Third Conference on the Theory of Casting Processes, organized by Liteynaya sektsiya Komissii po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Casting Section of the Commission for Machine-Building Technology of the Institute of Science of Machines, Academy of Sciences USSR) and by Institut metallurgii imeni Baykova
Card 1/6

Shrinkage Processes (Cont.)

SOV/4343

AN SSSR (Institute of Metallurgy imeni A.A. Baykov, Academy of Sciences USSR). The most serious defects in castings, ingots, and welds as a result of metal shrinkage are reviewed. Factors contributing to the formation of shrinkage cavities, porosity, cracks, fissures, distortion, and internal stresses are analyzed along with measures taken to prevent and remedy them. The hydrodynamics of molten metals and the process of solidification of metals are discussed. Also presented are resolutions adopted at the Conference with regard to the problem of shrinkage in metals. No personalities are mentioned. Most papers are accompanied by bibliographic references, the majority of which are Soviet.

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VK/wrc/sfm
11-16-60

S/081/60/000/020/003/014
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 20, p. 83, # 80426

AUTHORS: Korol'kov, A.M., Bychkova, A.A.

TITLE: Surface Tension¹⁸ of Metals and Alloys

PERIODICAL: V sb.: Issled. splavov tsvetn. metallov, 2. Moscow, AN SSSR, 1960, pp. 122-134

TEXT: The method of maximum pressure in an Ar vial was used to measure with an accuracy of 2-3% the σ -values of a series of pure (99.99% for Al and Sb) non-ferrous metals at a temperature elevated by 50-60°C beyond the melting point. The results obtained are: ¹⁸Al 860, ¹⁸Bi 380, ¹⁸Ga 725, ¹⁸Mg 515, ¹⁸Sn 526, ¹⁸Pb 410, ¹⁸Sb 395 and ¹⁸Zn 750 dyne/cm. The σ -composition dependence was studied for a series of binary and ternary Al- and Zn-base alloys.

S.Z.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

S/180/60/000/005/023/033
E021/E106

AUTHORS: Korol'kov, A.M., and Pronin, N.A. (Moscow)

TITLE: The Structure of Supercooled Eutectic Alloys

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, No.5, pp.181-185

TEXT: The aim of the investigation was to establish the controlling factors in the appearance of a spheroidal structure on the fast-cooled surfaces of aluminium-silicon and aluminium-copper alloys. Samples of various compositions were poured on to a polished cast iron plate heated to various temperatures. The specimens were 15-30 mm in diameter and 5-10 mm thick. The under-side surface was then examined under the microscope without polishing. The temperature of the liquid alloy was 100 ± 5 °C above the liquidus of the alloy. A typical spheroidal structure is shown (Fig.1). The results showed that in both alloy systems, the alloys near to the eutectic compositions gave a spheroidal structure with the least drop in temperature from the liquid alloy to the cooling surface. Thus for the eutectic aluminium-silicon alloys this difference was 27 °C and for the eutectic

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S/180/60/000/005/023/033
E021/E106

The Structure of Supercooled Eutectic Alloys

aluminium-copper alloys it was 148 °C. With smaller temperature drops, the spheroidal structure was not found. As the alloy composition moves away from the eutectic, higher degrees of supercooling are required to produce the spheroidal structure.. The aluminium-silicon alloys supercooled more easily than the aluminium-copper alloys. This was explained by the fact that the aluminium-silicon alloys were more easily modified. There are 4 figures, 2 tables and 7 Soviet references.

SUBMITTED: March 2, 1960

Card 2/2

S/123/61/000/006/017/020
A004/A104

AUTHOR: Korol'kov, A. M.

TITLE: Shrinkage processes in alloys in connection with their phase diagram

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 6, 1961, 2, abstract
6G12 (V sb. "Usadochn. protsessy v metallakh". Moscow, AN SSSR,
1960, 41-49).

TEXT: The author investigates the regularities of changes of casting shrinkage tendency to crystallization cracks and distribution of shrinkage porosity if the composition of foundry alloys is changed. It was found that shrinkage phenomena are directly connected with the kind of phase diagram of the alloys: alloys solidifying within a great temperature range under difficult shrinkage conditions tend to form hot cracks, while a difficult shrinkage of pure metals and alloys with a narrow temperature range of solidification is realized in the form of plastic deformation. It is shown that in alloys solidifying at constant temperatures centered shrinkage cavities originate, while alloys with a wide temperature range show a scattered shrinkage porosity. Yu. Stepanov

[Abstractor's note: Complete translation]

Card 1/1

KOROL'KOV, A.M. (Moskva)

Connection between metal and alloy properties in solid and
liquid states. Izv. AN. SSSR. Otd. tekhn. nauk. Met. i topl.
no.3:146-147 My-Je '61. (MIRA 14:7)
(Liquid metals) (Alloys)

S/180/61/000/006/009/020
E021/E135

AUTHORS: Korol'kov, A.M., and Igumnova, A.A. (Moscow)
TITLE: The surface tension of intermetallic compounds
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no.6, 1961, 95-99
TEXT: The surface tension of alloy systems with phase diagrams forming chemical compounds was investigated. The initial materials had the following purity: Al - 99.99; Bi - 99.98; Cd - 99.95; Mg - 99.91 (0.06 Fe + Si); Pb - 99.99; Sb - 99.15 (0.7% Pb); Sn - 99.9; Te - 99.4 (0.25 Pb, 0.16 R₂O₃); Zn - 99.94-99.99%. The results of the surface tension measurements are shown in the table. The surface tension of the intermetallic compounds is usually less than that of the components (e.g. Mg₂Sn) or equal to that of the component with the lower value (e.g. Sb₂Te₃). The composition - surface tension diagram has either a minimum or a point of inflexion at the composition corresponding to the compound. This indicates that compounds are surface active in relation to both the components and these compounds are of the normal valency type Mg₂Me, or are surface

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S/180/62/000/001/006/014
E039/E520

/8.8/100

AUTHORS: Korol'kov, A.M. and Shashkov, D.P. (Moscow)
TITLE: The electrical resistivity of some alloys in the liquid state
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no.1, 1962, 84-88
TEXT: While the structure of metals and alloys and their properties in the solid state have been studied extensively, the properties of liquid metal solutions have not. It is known from theory that in both the liquid and solid state short range order exists. Pure metals show an increase in electrical resistivity on heating and a marked jump on melting. The latter is due to the breakdown of the crystal lattice with a consequent loss of long range order. This paper describes the investigation of a number of alloys in the liquid state for which structural diagrams indicate both the absence of any appreciable mutual solubility of the components in the solid state (Al-Sn) as well as the existence of such solubility (Al-Cu; Pb-Sn; Al-Si; Al-Ge;
Card 1/2

The electrical resistivity of ...

S/180/62/000/001/006/014
E039/E520

Al-Zn; Al-Ag and Bi-Sn alloys). The electrical resistivities, ρ , were measured by an electrodeless method. In the Al-Sn alloy the composition $\sim \rho$ diagram obeys the additive law, as for eutectics in the solid state. Some alloys show a clear correlation between composition $\sim \rho$ curves and their structural diagrams. For example, in the alloy Al-Cu the maximum which occurs on the 750°C isotherm corresponds to the limit of solubility of copper in aluminium. Similar phenomena have also been observed for Pb-Sn alloys. The jump in the resistivity during fusion of alloys which crystallize within a large temperature interval is observed at temperatures at which the liquid-solid mixture contains at least 50% of the liquid phase which corresponds to the continuous nature of the mixture. No jump at all was observed in the resistivity during fusion of some eutectic alloys, whose components have conductivity jumps of opposite signs during fusion (Bi-Sn; Bi-Pb). There are 5 figures.

SUBMITTED: May 18, 1961

X

Card 2/2

37939

S/137/62/000/005/001/150

A006/A101

18.7540

AUTHORS: Korol'kov, A. M., Yudin, V. G.

TITLE: On the connection between viscosity of liquid metals with their atomic volume and entropy

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 7, abstract 5A43 (V sb. "Fiz.-khim. osnovy proiz-va stali", Moscow, AN SSSR, 1961, 347-353)

TEXT: The value of kinematic viscosity ν of a number of metals near the melting point can be established from equation $\nu = K (1/V)$, where K is a constant, equal to 4 - 5, V is the specific volume. Values ν of a number of metals, calculated from this equation, are in a satisfactory agreement with experimental data. In such a manner, the resistance to displacement of some liquid metal particles in respect to adjacent ones, is the lesser, the higher the distances between their centers. Alkaline metals and Mg are exceptions; their experimental ν values exceed the calculated ones; this is due to the structure or greater oxidizability of these metals which cannot be overcome during the experiments. It is shown that the higher ν , the lower the magnitude of entropy, i.e.

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On the connection between viscosity ...

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A006/A101

the weaker the disordering of atoms during heating. It is experimentally shown that on composition-viscosity diagrams for systems Al-Cu, Al-Si, Al-Fe, Al-Mn, and Zn-Sn, a ν minimum is characteristic for the eutectic point. It is assumed that the reduced ν value for eutectics is connected with the prevalence of bonds between similar, but not between dissimilar atoms. It is possible that the atomic volume of eutectics is greater than that of adjacent alloys, due to the minimum melting point of eutectics. This phenomenon is also explained by changes in entropy, since entropy values of melting eutectics will always be higher than those of components and adjacent alloys, due to the minimum melting point of eutectics.

P. Arsent'yev

[Abstracter's note: Complete translation]

Card 2/2

KOROL'KOV, A.M.; SHASHKOV, D.P.

Electric conductivity of certain liquid metals and alloys. Issl.
splav. tsvet. met. no.3:126-135 '62. (MIRA 15:8)
(Liquid metals--Electric properties)
(Alloys--Electric properties)

18 8100

45227

S/806/62/000/003/011/018

AUTHORS: Korol'kov, A. M., Shashkov, D. P.

TITLE: Electrical conductivity of some liquid metals and alloys.

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Issledovaniye splavov tsvetnykh metallov. no.3. 1962, 126-135.

TEXT: Following a thorough survey of existing literature on the phenomenon of electrical conductivity in solid and liquid metals and the various structural and other factors affecting it, the paper describes the results of an experimental investigation of binary alloys of a eutectic type based on Al and Pb (composition and purity of components tabulated). The investigation was conducted by A. R. Regel's rotating-magnetic-field method (ZhTF, v.18, no.12, 1948); its accuracy is $\pm 5\%$. A relatively simple variation of specific resistance (SR) versus composition, with a shallow depression in the vicinity of the eutectic point, obtains with those Al alloys, e.g., Al-Si and Al-Ge, in which there is no formation of chemical compounds. Si reduces the conductivity of liquid Al significantly near the eutectic point. In Al-Cu alloys, in which an Al-based solid solution and an intermetallic Al_2Cu compound exists, the SR increases with an addition of Cu to the Al, attains a maximum at 5.7% Cu, and, with Cu more than 10%, drops to less than the SR of pure Al. The Al-Ag alloys, both at $800^\circ C$ and at ($t_{liq} + 100^\circ$), exhibit a unique drop in SR with the addition of Ag. Ag-Zn alloys have a t_{liq} slightly depressed SR with 10% Zn, but the SR rises again

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Electrical conductivity of some liquid metals ...

S/806/62/000/003/011/018

with increasing Zn content until, with 40% Zn, the SR of pure Al is equaled. Thus it appears that various alloys retain in different measure their crystalline lattice even during fusion, so that a varying measure of weakening of the mobility of the current carriers obtains. This is confirmed by the high value of the temperature coefficient of the SR of liquid Al-Cu alloys corresponding to the solid-solution concentration (up to 5.7% Cu), some 2.5-2.7 times greater than for other alloys. The investigation further reveals that the SR of alloys that solidify over a large T interval have their SR jump neither at the solidus nor at the liquidus T, but at T's that lie on a line about midway within that interval, at points at which, apparently, the liquid isolates the crystals from direct mutual contact; this phenomenon was observed on Pb-Sn, Al-Cu, Bi-Pb, and other alloys. Another significant observation is that, in Bi-Pb and Bi-Sn lying between the eutectic point and pure Bi, in both the solid and liquid states the SR changes with T in the same manner as does pure Bi, but the increase in SR with T up to the m.p. decreases with an increase in Pb and Sn in the alloy. The magnitude of the SR, also, decreases until there is no more SR jump left at the eutectic point. Thus, the alloying elements lead to a loss of the inherent properties of the Bi. There are 7 figures, 2 tables, and 17 references (14 Russian-language Soviet, 1 Russian translation of the "Encyclopedia of Metal Physics," 1937, and 2 German).

✓

ASSOCIATION: None given.

Card 2/2

S/279/63/000/001/008/023
E039/E451

AUTHORS: Korol'kov, A.M., Shashkov, D.P. (Moscow)

TITLE: The temperature dependence of the electrical conductivity of some alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i gornoye delo. no.1, 1963, 105-108.

TEXT: . A series of binary and tertiary alloys was examined to determine the temperatures and compositions of alloys at which a sudden increase in conductivity occurred on melting, in comparison with a further series of alloys which did not show a sudden increase. The observations confirm that the conductivity jump occurs in eutectic alloys (e.g. Al - Zn) when the amounts of solid and liquid phases are equal, that is when the crystals lose contact with each other and are isolated by liquid. Similar conductivity jumps are observed in eutectic alloys such as Al-Si, Al-Cu, Cd-Bi etc and also for continuous solid solution alloys (Sb-Bi system). Alloys with concentrations close to the eutectic also show a conductivity jump at the eutectic temperature. This effect is absent in systems which include "semimetals" (Bi, Sb, Ga)

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The temperature dependence ...

S/279/63/000/001/008/023
E039/E451

e.g. Bi-Cd, Bi-In, Pb-Sb alloys. In this case the conductivity jump disappears at eutectic concentrations. Similar behavior is observed for tertiary alloys containing a "semimetal" component (Pb-Sn-Bi, Pb-Sn-Sb). No conductivity jump is present for eutectic alloys with strongly chemically reacting components (Cu-Sb, Mg-Ga). A possible reason for these anomalous changes in conductivity may be a mutual compensation of current carriers on melting. The process is evidently also connected with the complex changes of volume for alloys composed of components with opposite volume changes on melting. These results are of definite interest for developing a theory of alloys and a physical theory for the liquid \rightleftharpoons solid transition. There are 3 figures and 1 table.

SUBMITTED: September 24, 1962

Card 2/2